## REMARKS

Claims 1-27 are pending in the application. Claims 20-27 have been withdrawn from consideration. New dependent claim 31 has been added to the application. Therefore, claims 1-27 and 31 are at issue.

This amendment is submitted in accordance with 37 C.F.R. §1.116(a) and §1.116(b) in order to present the rejected claims in a better form for allowance or appeal. The amendment is necessary to eliminate rejections under 35 U.S.C. §102(e) and §103. This amendment was not presented earlier because applicants believed, and still believe, that the response filed March 14, 2006 resolved all outstanding issues. The amendment should be entered because it places the application in better form for allowance or appeal, and the amendment does not require further searching or present any new issues.

Claim 1 has been amended to delete "about" from the claimed weight range of the clay. Therefore, the minimum amount of clay in the particle is 12%. New claim 31 recites a weight percent of clay in the particles of about 15% to about 35%. Support for new claim 31 can be found in original claims 1 and 2 and in the specification at page 9, lines 21 and 22. New claim 31 does not require further searching or introduce new issues because the minimum (about 15%) and maximum (about 35%) amount of clay was previously considered and searched in examining claims 1 and 2.

The examiner deemed the restriction requirement as final based on the contention that the common technical feature of adding a clay to superabsorbent polymer (SAP) during a surface crosslinking step lacks

novelty. However, the claims also recite *additional* features. As discussed below in connection with the art-based rejections of claims 1-19, all pending claims 1-27, and new claim 31, have a common technical feature of adding *12% by weight* of a clay, or more, to SAP particles during a surface crosslinking process, which *is* novel and nonobvious. Accordingly, applicants again request that the examiner reconsider the restriction requirement, and rejoin method claims 20-27 for the reasons set forth herein and in the responses mailed November 22, 2005 and March 14, 2006, i.e., per PCT rules, unity is not lacking between claims of different categories having a common technical feature that is novel and nonobvious.

Claims 1-5 and 7-17 stand rejected under 35 U.S.C. §102(e) as being anticipated by Sun et al. U.S. Patent No. 6,124,391 ('391). Claim 6 stands rejected under 35 U.S.C. §103 as being obvious over the '391 patent. Claims 18 and 19 stand rejected under 35 U.S.C. §103 as being obvious over the '391 patent in view of Beerse et al. U.S. Patent Publication 2002/0006886 ('886 publication).

The basis of these rejections is that the '391 patent discloses the use of clays as anticaking and dedusting agents. For the reasons set forth below, it is submitted that the present claims are neither anticipated by nor obvious over the '391 patent.

The '391 patent discloses the preparation of dried SAP particles, admixing the dried SAP particles with 0.2 to 10 wt% of an inorganic powder and a surface crosslinking agent (column 7, lines 27-32 and 43-45), and heating the resulting mixture. The inorganic

powders can be a clay. The inorganic powder can be added to the SAP particles before, during, or after the surface crosslinking step. Importantly, the '391 patent specifically discloses that the clay is added to the SAP particles in an amount sufficient to achieve anticaking properties, up to a *maximum* of 10 wt%, and preferably *less* than 10 wt%, (see '391 patent, column 7, lines 27-32). Additionally, the examples of the '391 patent are SAP particles having a clay concentration of 0.5 to 3 wt%.

As stated above, the '391 patent is directed to incorporating an anticaking and dedusting amount of an inorganic powder to SAP particles. The *maximum* amount of inorganic powder added to the SAP particles, as disclosed in the '391 patent, is 10 wt%. In contrast, and in view of the amendment to independent claim 1, the present claims specifically recite a *minimum* amount clay of 12%, by weight. Accordingly, because the '391 patent does not recite every element of the present claims, the '391 patent cannot anticipate the present claims under 35 U.S.C. §102.

It must be noted that applicants have amended claim 1 to recite that the particles contain "12% to about 35%, by weight, of a clay." Therefore, the examiner's unsubstantiated and conclusory argument that the "about 10%" clay recited in the '391 patent and the "about 12%" previously recited in the claims means that an overlap exists at 11%, by weight, clay is rendered moot. The examiner has provided *no* rationale to support why the "about" language of the '391 patent allows a 10% increase in the amount of clay from 10% to 11%. From a reading of the entire '391 patent, the

"about 10%" language of the '391 patent cannot be interpreted to extend to 12% by weight clay because 10% clay is the *maximum* amount of clay disclosed in the '391 patent. If the term "about 10%" in the '391 patent is given any weight at all, it is only a slight amount greater than "10% by weight." The '391 patent, therefore, cannot anticipate the present claims because the '391 patent does not disclose every previously claimed element.

Further, the examiner completely has ignored the *minimum* amount of clay recited in original claim 2, i.e., about 15%, by weight, which is *50%* higher than the *maximum* amount of clay disclosed in the '391 patent. This same minimum amount is recited in new claim 31.

In addition, the differences between the '391 patent disclosure and present claims are nonobvious differences. The '391 patent discloses amounts of inorganic powder that typically are used in the art to impart anticaking and dedusting properties to SAP particles. The '391 patent contains no teaching or suggestion that would motivate a person skilled in the art to increase the amount of inorganic powder above the disclosed maximum limit of about 10%, by weight. In fact, persons skilled in the art would have had no incentive to increase the amount of inorganic powder above about 10 wt%, because the '391 patent teaches that dedusting is achieved at inorganic powder amounts well below 10 wt% (e.g., see '391 examples). Therefore, persons skilled in the art would consider using any amounts of clay above 10 wt% as being wasted.

However, applicants have found that including a clay in the surface crosslinking step, in the claimed amount of 12% to about 35%, by weight, provides the unexpected benefits of reducing the amount of fine-sized SAP particles *and* improving the permeability of the clay-treated SAP particles. See specification, page 7, lines 32-35, and page 8, lines 12-16, for example.

Applicants further have provided objective evidence demonstrating the new and unexpected results provided by the presently claimed invention. In each of Examples 5 and 6, at pages 30-33 of the specification, applicants provide a series of SAPs containing varying amounts of clay added to the SAP during the surface crosslinking step. Example 5, in the table at page 30, shows that an amount of clay disclosed in the '391 patent, i.e., 5% and 10 wt%, generates 20% and 16 wt%, respectively, of SAP particles having a diameter less than 200 μm (i.e., fine-sized SAP particles). By increasing the amount of clay to 15 wt% in accordance with presently claimed invention, fine-sized particles having a diameter less than 200 μm drops substantially to 4.5 wt%. Further increasing the amount of clay up to 35 wt% results in further decreases in the amount of fine-sized SAP particles.

The table of Example 5 also shows a substantial increase in fluid permeability in SAP particles having 15 wt% or more clay (inventive) over SAP particles having 5 wt% or 10 wt% clay (comparative and within the '391 disclosure). See SFC data in the table of Example 5. The importance of a high SFC value as relating to SAP particle permeability is discussed at page 28, line 17-26 of the specification. The table of

Example 6 of the specification contains similar results with respect to both reducing the amount of fine-sized SAP particles and improving SAP particle permeability when a clay is present in an amount recited in the claims. Notably, the SAP particles also performed well with respect to absorption properties even in the presence of high amounts of clay (see specification, page 33, lines 1-3 and AUL and CRC data in the tables of Examples 5 and 6).

Contrary to the examiner's statements in the Office Action, these results *are* unexpected in view of the teachings of the '391 patent, which are limited to a maximum of 10 wt% inorganic powder added to SAP particles to provide anticaking and dedusting properties. The '391 patent absolutely fails to teach or suggest using greater amounts of an inorganic powder for any purpose. The '391 patent teaches that the amount of clay to be used is typically about 0.2% to about 10%, more preferably about 0.5% to about 7%, and even more preferably about 0.9% to about 5.5%. The teaching of the '391 patent is that the *best* results can be expected in the *most preferred* range from 0.9% to 5.5%. Thus, one of ordinary skill in the art would not have been motivated to use clay in an amount substantially greater than that in the '391 patent disclosure. In fact, the '391 patent *discourages* increasing the amount of inorganic powder added to the SAP.

Persons skilled in the art certainly would have had no incentive from the '391 patent (directed to anticaking and dedusting) to increase the amount of clay added to SAP particles with any reasonable expectation of substantially reducing the amount of fine-

sized SAP particles *and* improving SAP particle permeability, *while also* retaining SAP particle absorption properties.

The examiner's reasons that the 5% gaps between the tested amounts of clay in the examples "is very important." This reasoning is incorrect. These are merely the weight percents that have been tested to demonstrate, *not define*, the unexpected benefits provided by the presently claimed invention. Furthermore, the range disclosed in the '391 patent for the percent clay does *not* abut the presently claimed range, but is at least 20% lower than the presently claimed minimum amount of clay, i.e., 12% as claimed and about 10% in the '391 patent, with the "about" term given a very narrow, if any, range due to the *complete* teachings of the '391 patent. See MPEP 2173.05(b), "nothing in the specification, prosecution history, or the prior art to provide any indication as to what range . . . is covered by the term 'about.'"

Therefore, for the reasons set forth above, it is submitted that not only are claims 1-5 and 7-17 novel over the '391 patent, but also that claims 1-5 and 7-17 and claim 6 would not have been obvious over the '391 patent under 35 U.S.C. §103.

With respect to claims 18 and 19, these are additional embodiments of the present invention and are patentable for the same reasons as claims 1-17. Applicants still maintain that the '886 publication does not overcome the deficiencies of the '391 patent. The '886 publication merely discloses well known quaternary ammonium compounds (QACs). The QACs of the '886 publication are *not* incorporated into clay particles, but

are added *directly* to "a water insoluble substrate comprising a nonwoven layer" (see paragraphs [0010], [0023] through [0051] and [0247]). A clay is *not* a nonwoven layer as disclosed in the '886 publication. The '886 patent fails to teach or suggest any combination of a QAC and a clay to provide an organophilic clay as required in claims 18 and 19, and furthermore the '886 publication is not remotely directed to SAP particles.

In fact, the QACs of the '886 publication are disclosed as optional, nonlathering cationic surfactants. The disclosure relating to QACs is nothing more than a general description of available QACs. At most, the '886 publication discloses that both an SAP and a QAC can be optional ingredients in a composition disclosed therein. There is no teaching that an SAP and a QAC should both be present, and no teaching or suggestion of including a clay. Furthermore, persons skilled in the art would not add a hydrophobic QAC to an SAP because the absorbency properties of the hydrophilic SAP would be adversely affected.

Therefore, persons skilled in the art would have had absolutely no motivation or incentive to consider combining any teaching from the nonanalogous '886 publication with the '391 patent. Further, even if such a combination of references was considered, the combination would not lead a person skilled in the art to incorporate a standard QAC of the '886 publication (taught for use as a surfactant) into a clay (which ties up the QAC), then incorporate such a treated clay in the presently claimed amount into SAP particles during a surface-crosslinking step. Such jumps in

reasoning to arrive at the presently claimed invention are not remotely suggested by the combination of the '391 patent and the '886 publication.

To support the rejection, the examiner relies upon a definition of the term "tallow." It is well known that a QAC can have a tallow component, but the '186 publication is limited to disclosing a QAC, not even remotely addressing an organophilic clay having a QAC component. An organophilic clay has properties different from an untreated clay because of the QAC. The QAC in the organophilic clay performs differently from a free QAC as disclosed in the '186 publication. The QAC in the '186 patent is used to provide a nonlathering surfactant. In the present claims, the QAC is *not* available to act as a surfactant, but modifies the properties of the clay.

The examiner further misunderstands the claimed invention *vis-à-vis* the '186 publication by his statements in the first full paragraph of page 6 of the Office Action. The examiner's conclusory statement that it would have been obvious to "incorporate organophilic clay selected from tallow" into an SAP to obtain additional functional group linkages is totally incorrect. These hydroxyl and amino functionalities may be present in a composition of the '186 publication because the QAC is free, and is not bound to a clay. In an organophilic clay, the QAC is *bound* and is not available to provide any such functionalities. Further, if such functionalities were available, they may be detrimental and adversely affect the absorbency of the SAP particles.

Applicants reiterate that the '186 publication is nonanalogous art. The examiner admits that the '186 patent is directed to a dry article for personal cleansing, and more generally to an article that *delivers* a compound having a benefit. An SAP does *not* deliver compounds, but rather absorbs aqueous solutions. The goal of the '186 patent teachings would be frustrated by using an SAP in place of the nonabsorbing nonwovens disclosed in the '186 patent. The SAP absorbs, whereas the nonwovens deliver.

For all the reasons set forth above, it is submitted that claims 1-19 are neither anticipated under 35 U.S.C. §102(e) by the '391 patent nor obvious over the '391 patent, alone or in combination with the '886 publication, and that the present rejections should be withdrawn. It also is submitted that claims 20-27 should be rejoined into the application because the common technical feature of all claims 1-27 is novel and nonobvious.

The pending claims are in a form and scope for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

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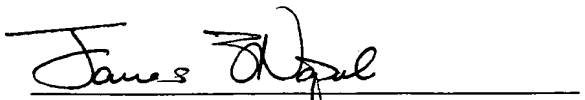
By 

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